UTAH DIVISION OF SOLID AND HAZARDOUS WASTE

RESPONSE TO COMMENTS

Received on the Promontory Point Class I Landfill Permit Application and Draft Permit

INTRODUCTION

The period to receive comments on the Promontory Point Class I Landfill permit application and draft permit began November 26, 2003 and ended December 30, 2003. A public hearing was held in Brigham City, Box Elder County on December 10, 2003. Both written and oral comments were received. Comments in opposition to the construction and operation of the landfill were received from four commenters and four commenters were in favor of the landfill.

To address some of the relevant comments received, additional information was requested and received from the permit applicant/owner of the proposed landfill. This information has been incorporated into the permit application. The draft permit has not been changed.

Following is a summary of the comments received according to subject or issue and a response to the comments.

COMMENTS AND RESPONSES

Groundwater Monitoring

Comment: The draft permit does not identify groundwater movement flows or indicate whether the four proposed monitoring wells will be sufficient to protect water quality in the Great Salt Lake. Also, the commenter states that the draft permit dose not identify any underwater seeps or springs nor does the permit have any contingency plans in the event that contaminated groundwater reaches the Great Salt Lake. In short, the groundwater monitoring system is not adequate to protect the waters of the Great Salt Lake.

Response: The groundwater flow direction, gradient, and flow rate are shown in Figure 3.7, page 3.15; a ground water contour map is shown in Figure 3.1, page 3.2; and the location and construction of the monitoring wells are shown in Appendix D of the permit application. There are no known under water seeps or springs in the Great Salt Lake in the general vicinity of the landfill site. To meet the requirements of Utah Administrative Code (UAC), R315-303-2(1) regarding groundwater protection under the proposed landfill site and the nearby waters of the Great Salt Lake, the landfill will be constructed using a double liner system. A groundwater monitoring system will be installed as a means to monitor for groundwater contaminants. UAC R315-308-2(1), requires the groundwater monitoring system to consist of at least one upgradient well and two

downgradient wells that are placed not to exceed 500 ft. downgradient from the waste boundary. The four downgradient wells are placed so that no area of the waste boundary along the south edge of the active landfill will be greater than 500 ft. from a well. Also, as the landfill expands, more monitoring wells may be required.

Samples of the ground water will be tested for the constituents listed in UAC R315-308-4 and background concentrations (pre-landfill condition of the groundwater quality) of each constituent will be established. Background concentrations are based on the results of eight sampling events which are statistically analyzed using an appropriate approved statistical method. Thereafter, the groundwater will be sampled semiannually and all test results will be statistically analyzed to determine if changes in the concentration of any constituent has occurred as compared to background concentrations. If the operation of the landfill causes the concentration of any constituent of the groundwater to increase to a level statistically higher than the groundwater protection standard, corrective action as specified in UAC R315-308-3 will be required. Therefore, the landfill will be constructed with liners to protect the groundwater; the groundwater monitoring system will be installed to evaluate the performance of the landfill liner system; and, if necessary, corrective action will be taken to protect the waters of the Great Salt Lake. Also, all data and other information generated during groundwater monitoring activities are public records and may be reviewed by any interested person.

Quality of Groundwater

Comment: The mineral level is the only parameter used to determine the quality of the groundwater under the site. More extensive analysis of the groundwater should be required.

Response: When there is a reasonable degree of certainty that the groundwater has not been affected by human activity, both the Division of Water Quality and the Division of Solid and Hazardous Waste accept the mineral content of the water or the total dissolved solids as the common recognized expression of water quality. After the permit is issued, the groundwater will be extensively sampled and analyzed prior to the receipt of waste, during landfill operation, and during the post-closure care period. The groundwater at the proposed site is not currently being used for any purpose, but has been used in the past only for stock watering. The high mineral content of the groundwater precludes it from being used by humans for most purposes. However, UAC R315-303-2(1) does not allow the groundwater to be contaminated beyond established water quality standards by the operation of a landfill. Therefore, if the proposed landfill is constructed and operated, the groundwater will be monitored and protected as outlined above.

Source of Sufficient Water for Landfill Activities

Comment: Little information is presented in the permit application to show that a water source will be developed at the site with sufficient quality and quantity to provide the water required for landfill activities.

Response: The owners of the proposed landfill explain, on page 3-14 of the application, that they will improve and further develop the upgradient monitoring well, and other wells if necessary, as a water source for landfill operational activities. The water for human use will be hauled to the landfill site.

Litter Control

Comment: Concern was expressed that fugitive waste may contaminate the Great Salt Lake or surrounding wildlife habitats. Also, it was requested that the incoming waste arrive baled to further minimize fugitive waste blowing from the site.

Response: The possibility of solid waste being carried by wind from the landfill site is a valid concern. The baling of waste is an economic issue that is not directly regulated by the Solid Waste Rules and would be a choice made by the transfer stations supplying the waste to the landfill. The Solid Waste Rules require the owner or operator propose and execute a litter control plan that will minimize windblown litter and collect any litter that has escaped from the active working area of the landfill. The owners of the landfill understand that windblown litter may not leave property owned or controlled by them. A litter control plan has been proposed and will be initiated with the first load of waste received at the landfill. Due to the critical nature of litter control with respect to the Great Salt Lake, the owner of the proposed landfill has further refined the litter control program to provide a very high degree of confidence that no litter will ever reach the waters of the Great Salt Lake. The litter control plan includes the on-site installation of equipment to measure wind speed and direction. The unloading and placement of waste will stop during times of high winds blowing from directions that could carry litter to the lake. Also, as litter control experience is gained at the site, the litter control activities may need to be periodically revised and improved until a program is in place that efficiently controls and collects any windblown litter.

Location of Evaporation Ponds

Comment: The location of the evaporation ponds are not shown in the permit or permit application and concern is expressed that they may be located within the historical floodplain of the Great Salt Lake. Also, concern is expressed that the ponds will not be protected from wildlife use.

Response: The landfill designs presented in the permit application are conceptual designs and the location of the evaporation ponds is not required until the final plans are submitted prior to construction. The ponds will be total containment evaporation sites for only the water that has come in contact with solid waste. In the beginning, only one pond will be constructed that will be sized to contain the leachate generated from the operating landfill module. As such, the pond may contain little or no liquid for several years. Other evaporation ponds will be constructed as needed. An evaporation pond will be located on land owned by the landfill owner very near the landfill modules. It will be located so that the groundwater downgradient to the pond can be monitored. This may require the installation of additional groundwater monitoring wells. All ponds will be

constructed as approved by the Division of Water Quality with a double liner and a leak detection system installed between the liners similar to the conceptual design shown as Figure 4.6, page 4-22, of the permit application. The ponds are fenced to prevent unauthorized access by humans or wildlife.

Borrow Sources

Comment: A recommendation is made to not use the buffer area around the active landfill as a borrow source for soil used in landfill activities but to protect the buffer area and improve it for wildlife habitat.

Response: The buffer area around a landfill and any other private property not planned for the disposal of solid waste is not regulated by the Solid Waste Rules. However, the owners of the landfill have committed to protect the portion of the buffer area around the archeological site that consists of a rock shelter as shown and described in the cultural resource reconnaissance information contained in Appendix F of the permit application. Also, due to the shallow depth of the soil in many portions of the buffer area, much of the area will be left undisturbed.

Site Access

Comment: The permit application fails to show that the site will be accessible as required by the Conditional Use Permit issued by Box Elder County. Also, the permit application does not show the design of the proposed railroad spur.

Response: The Utah Solid and Hazardous Waste Control Board has no authority to enforce requirements imposed by Box Elder County. Also, the Solid Waste rules do not regulate the feasibility or design of a railroad spur. The spur must be constructed according to the specifications required by Union Pacific Railroad. The owners of the landfill are allowed to bring waste, needed materials, and equipment to the site by rail and have permission to use the Union Pacific causeway with smaller vehicles. The owners are negotiating with Union Pacific for permission to upgrade the causeway for use by larger trucks and are also negotiating the use of a privately owned causeway.

Siting Criteria

Comment: Concern is expressed that the landfill will not meet the siting criteria because it will be located within 1000 feet of a recreation area; ecologically or scientifically significant natural area; wildlife management area; habitat for threatened or endanger species; or wetlands.

Response: The owners of the proposed landfill have committed to establish a benchmark of the accepted 4212 feet elevation high water level of the Great Salt Lake. Using this benchmark will ensure that the boundary of any landfill module will be greater than 1000 feet from the established high water level of the Great Salt Lake. Therefore, the location standards as cited in the comment are met. Information contained in Appendix F of the

permit application shows that the landfill site does not contain any ecologically or scientifically significant natural areas or wildlife management areas. Also, there is no habitat that would support any threatened or endangered species. A letter from the Army Corps of Engineers, also contained in Appendix F, states that "there are no waters of the United States, including wetlands" within the proposed landfill site.

Wildlife Impacts

Comment: The impacts to the wildlife of the Great Salt Lake have not been adequately addressed.

Response: The "Environmental Baseline Report;" a literature review, "Gulls, Landfills, and Pelicans;" and other supporting documents contained in Appendix F of the permit application address the impacts to wildlife of the Great Salt Lake. Gulls are attracted to landfills as a food source. Even though there has been a great increase in food resources due to human activities, there has not been a corresponding increase in the number of gulls in the area of the Great Salt Lake since the 1920's when studies began. The lack of a significant increase in numbers of gulls appears to be due to other limiting factors, such as the amount of available breeding habitat. The development of a landfill at Promontory Point would provide an additional food source for gulls but the gull population on the Great Salt Lake would likely remain stable because the nesting habitat is limited. Gulls and pelicans nest in separate colonies on Gunnison Island in the northwestern quadrant of the Great Salt Lake. The only documented cases of increased predation on pelican eggs or young by gulls are during periods of disturbances, such as human presence and boat traffic. During the periods of disturbance, many of the adult pelicans leave their nesting areas which in turn leaves the eggs or chicks unprotected and exposed to predation by gulls. The proposed landfill is at such a distance from Gunnison Island, approximately 20 miles, that no disturbance to the nesting pelicans is anticipated.

The Box Elder County Landfill is located approximately 5 miles north of the Bear River Migratory Bird Refuge and the Bountiful City Landfill is located near the shore of the Great Salt Lake approximately 3 miles south of the Farmington Bay Management Area. These landfills have been in operation for many years and there appears to be no documented evidence that predation by gulls at either Bird Refuge has increased as a result of gulls being attracted to the landfills. The Promontory Point Landfill will be located at a much greater distance from either bird refuge than the two landfills mentioned and would logically result in less impact due to the activities of gulls.

The actual property on which the landfill would be constructed has been extensively grazed by domestic animals for many years. The land currently supports only low populations of small mammals and reptiles. Most birds and larger animals are transients to the area.

Also, the shore line of the Great Salt Lake, for several miles in either direction, contains no habitat, including fresh water sources, that supports any birds, wildlife, or fish as permanent residents and has little or no use by transient birds or wildlife.

Economic Viability of the Landfill

Comment: The economic viability of the landfill is questioned.

Response: The Solid Waste Rules do not require the permit application for a non-commercial landfill (Class I Landfill) to contain economic information. Therefore, the economic viability is not considered in the permitting process for the proposed landfill. All landfills in Utah are required to maintain financial assurance to provide for closure and post-closure care of the facility if the owner were unable to provide these. The owners of the proposed Promontory Point Landfill are required to have an approved financial assurance in place prior to accepting waste. This will protect the citizens of Utah against any costs for closure and post-closure care for the facility.

The Great Salt Lake as a Tourist Attraction

Comment: Concern is expressed that the construction of a landfill on Promontory Point will reduce the desirability of the Great Salt Lake as a tourist attraction.

Response: This is a land use issue, controlled by Box Elder County, rather than a technical landfill permitting issue. The proposed landfill would be developed on private property in an extremely isolated area with very limited access many miles from any noted tourist attraction. It appears unlikely that the landfill would become known to most visitors to attractions of the Great Salt Lake. As appears to be the case with the existing landfills that are located near the lake, if tourists become aware of the Promontory Point Landfill, it is unlikely that this knowledge would have any effect on their visiting the attractions of the Great Salt Lake.

Quality Control/Quality Assurance Plan

Comment: The permit application does not contain quality control/quality assurance plans for the engineered structures and features that will be installed at the landfill.

Response: The landfill designs presented in the permit application are conceptual designs and the quality control/quality assurance plans may be part of the permit application. However, the quality control/quality assurance plans must accompany the final plans and specification of a structure or feature when they are submitted for approval prior to construction. To have quality control/quality assurance plans be specific to an individual project, it is usually better to submit the quality control/quality assurance plans with the final plans and specifications for that project. Also, the quality control/quality assurance plans and procedures may change during the construction process to help ensure the construction of a structure or feature with the best available technology. All design drawings and specifications for waste containment and leachate containment features at the facility must be submitted to the Executive Secretary for approval prior to construction and are inspected during construction. No waste containment structure can be used without a final inspection and approval of the as-built drawings.

Plan of Operation

Comment: The plan of operation is vague and provides insufficient detail to serve as guidance for the landfill operator and personnel. Some sections of the plan of operation are missing or incomplete.

Response: The proposed landfill could be well run from the plan of operation presented in the permit application. However, the owner of the proposed landfill has revised the plan of operation to include greater detail.

Handling of Industrial Waste and Special Wastes

Comment: The permit application provides no special facilities or procedures for the handling of industrial waste and special wastes received at the landfill.

Response: The proposed landfill expects to receive municipal waste as the primary waste stream for disposal and the waste will come from transfer stations. The municipal waste brought to any transfer station will always contain some incidental industrial waste and several types of special wastes such as: furniture and appliances; infectious waste; waste tires; and dead animals. The solid waste that is delivered to a transfer station is inspected for prohibited wastes and any prohibited wastes are removed for proper disposal. The acceptable waste is loaded onto larger haul vehicles for transport to a landfill permitted for those wastes. The proposed landfill will be permitted to accept industrial waste and special wastes. The waste is usually compacted prior to being delivered to the transfer station and is co-mingled and compacted again when it is loaded onto the transport vehicle. In most instances, by the time the compacted, co-mingled waste reaches the landfill it is unrecognizable as a distinctive waste type. Therefore, there is little need for special facilities or procedures for the handling of industrial or special waste since it will be handled the same as other waste that is received at the landfill.

General Training Plan

Comment: The owner of the proposed landfill should establish a set of training and experience qualifications criteria to assure that qualified personnel are employed to operate the landfill.

Response: Prudence does suggest that an owner should select the most qualified personnel to operate the proposed landfill. However, the Solid Waste Rules do not set minimum standards of training and experience for landfill personnel. Therefore, the general training plan in the permit application meets the requirements of UAC R315-303-4(2)(f) since personnel trained in landfill operations will be at the site when ever it is open to receive waste.

Final Cover

Comment: No vertical permeability analysis of the proposed final cover soils was provided to assess the adequacy of the final cover.

Response: The final cover of the proposed landfill will be essentially the same as the bottom liner system, consisting of a geosynthetic clay layer and a polyethylene layer which will be protected by an 18 inch soil layer. The permeability and specifications of the synthetic layers are presented in Appendix G of the permit application. Since the protective soil layer has the sole purpose of protecting the final cover liner from damage, no permeability information is required.

Cost Estimates for Closure and Post-Closure Care

Comment: The cost estimates for closure and post-closure care for the landfill includes the costs for only one 20 acre module which seriously understates the total cost to close and provide post-closure care at the 1000 acre facility. Also, the cost estimate for post-closure care appears to be low and contains no detail on the various elements that make up the costs.

Response: The proposed landfill will be constructed and closed in phases consisting of 20 acre modules. A module will be constructed, receive waste, and as soon as a large enough portion of the module reaches the planned elevation and contour, that portion will receive the final cover. As this schedule of phased construction and closure is followed, the largest area of the landfill that will require closure at any one time would only include a new module being constructed and the portion of the old module that has not been closed and is still receiving waste. Therefore, the area of the landfill that would require final cover and be subject to the financial assurance requirements for closure should remain fairly constant during the life of the landfill. However, as modules are closed, the area subject to post-closure care requirements will increase. The first module constructed will be active for several years prior to the start of the construction of the next module. The cost estimate contain in the application for the closure of the first module is an acceptable estimate. The owners have revised and itemized the cost estimate for the post-closure care of the first module. Also, the cost estimates for the required financial assurance must be updated as part of the annual landfill report and the financial assurance mechanism must be approved each year.